

CLAIMS

1. A method of screening for and/or diagnosis of carcinoma in a subject, and/or monitoring the effectiveness of carcinoma therapy, which comprises the step of detecting and/or quantifying in a biological sample obtained from said subject:
 - (i) a RAIG1 polypeptide which:
 - a) comprises or consists of the amino acid sequence of SEQ ID NO: 1;
 - b) is a derivative having one or more amino acid substitutions, modifications, deletions or insertions relative to the amino acid sequence of SEQ ID NO: 1 which retains the activity of RAIG1; or
 - c) is a fragment of a polypeptide having the amino acid sequence of SEQ ID NO: 1, which is at least ten amino acids long and has at least 70% homology over the length of the fragment; or
 - (ii) a nucleic acid molecule which:
 - d) comprises or consists of the DNA sequence of SEQ ID NO: 2 or its RNA equivalent;
 - e) has a sequence which is complementary to the sequences of d);
 - f) has a sequence which codes for a polypeptide as defined in any of a) to c) above;
 - g) has a sequence which shows substantial identity with any of those of d), e) and f); or
 - h) is a fragment of d), e), f) or g), which is at least 10 nucleotides in length.
2. The method of claim 1, wherein the level of said polypeptide or said nucleic acid is compared to a previously determined reference range or control.
3. The method according to claim 1 or 2, wherein the step of detecting comprises:
 - (a) contacting the sample with a capture reagent that is specific for a polypeptide as defined in claim 1(i); and
 - (b) detecting whether binding has occurred between the capture reagent and said polypeptide in the sample.
4. The method according to claim 3, wherein step (b) comprises detecting the captured polypeptide using a directly or indirectly labelled detection reagent.
5. The method according to claim 3 or 4, wherein the capture reagent is immobilised on a solid phase.
6. An antibody, functionally-active fragment, derivative or analogue thereof, that specifically binds to one or more RAIG1 polypeptides as defined in claim 1(i).
7. The method according to anyone of claims 1 to 5, wherein the polypeptide is detected and/ or quantified using an antibody that specifically binds to one or more RAIG1 polypeptides as defined in claim 1(i).

8. An antibody according to claim 6 or the method of claim 7, wherein the antibody is monoclonal, polyclonal, chimeric, humanised or bispecific, or is conjugated to a therapeutic moiety, detectable label, second antibody or a fragment thereof, a cytotoxic agent or cytokine.

5 9. A diagnostic kit comprising a capture reagent specific for a RAIG1 polypeptide as defined in claim 1(i), reagents and instructions for use.

10. The use of:

- (i) at least one RAIG1 polypeptide as defined in claim 1(i);
- 10 (ii) a nucleic acid molecule as defined in claim 1(ii); or
- (iii) a derivative of a polypeptide as defined in claim 1(i) having one or more amino acid substitutions, modifications, deletions or insertions relative to the amino acid sequence of SEQ ID NO: 1 which is a dominant negative mutant;

in the manufacture of a medicament for the treatment of carcinoma.

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11. The use of an antibody as defined in claim 6 or 8 in the manufacture of a medicament for the treatment of carcinoma.

12. The use as claimed in claim 10(i) or (ii), wherein the composition is a vaccine.

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13. A method of screening for anti-carcinoma agents that interact with a polypeptide as defined in claim 1(i), said method comprising:

- (a) contacting said polypeptide with a candidate agent; and
- (b) determining whether or not the candidate agent interacts with said polypeptide.

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14. The method according to claim 13, wherein the determination of interaction between the candidate agent and RAIG1 polypeptide comprises quantitatively detecting binding of the candidate agent and said polypeptide.

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15. A method of screening for anti-carcinoma agents that modulate:

- (a) the expression or activity of a RAIG1 polypeptide as defined in claim 1(i), or
- (b) the expression of a nucleic acid molecule as defined in claim 1(ii),

comprising:

- (i) comparing the expression or activity of said polypeptide, or the expression of said nucleic acid molecule, in the presence of a candidate agent with the expression or activity of said polypeptide, or the expression of said nucleic acid molecule, in the absence of the candidate agent or in the presence of a control agent; and
- (ii) determining whether the candidate agent causes the expression or activity of said polypeptide, or the expression of said nucleic acid molecule, to change.

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16. The method of claim 15, wherein the expression or activity level of said polypeptide, or the expression level of said nucleic acid molecule is compared with a predetermined reference range.

17. The method of claim 15 or 16, wherein part (ii) additionally comprises selecting an agent which modulates the expression or activity of said polypeptide, or the expression of said nucleic acid molecule for further testing, or therapeutic or prophylactic use as an anti-carcinoma agent.
- 5 18. An agent identified by the method of any of claims 13-15, which interacts with said polypeptide or causes the expression or activity of said polypeptide, or the expression of said nucleic acid molecule, to change.
- 10 19. The use of an agent which interacts with or causes a change in the expression or activity of a RAIG1 polypeptide or the expression of a RAIG1 nucleic acid as defined in claim 1, in the manufacture of a medicament for the treatment of carcinoma.
- 15 20. The method of any one of claims 1-5, 7 and 13-17, or the use of claim 19, wherein the carcinoma is breast cancer, pancreatic cancer, lung cancer, liver cancer, ovarian cancer, colon cancer and/or osteosarcoma.